(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
29 November 2007 (29.11.2007)

PCT

(10) International Publication Number
WO 2007/137281 A2

(51) International Patent Classification: Not classified

(21) International Application Number:
PCT/US2007/069501

(22) International Filing Date: 22 May 2007 (22.05.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/802,632 22 May 2006 (22.05.2006) US

(71) Applicant *(for all designated States except US)*: **QUALCOMM Incorporated** [US/US]; Attn: International Ip Administration, 5775 Morehouse Drive, San Diego, California 92121 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **WALTON, J. Rodney** [US/US]; 85 Highwoods Lane, Carlisle, Massachusetts 01741 (US). **WALLACE, Mark S.** [US/US]; 4 Madel Lane, Bedford, Massachusetts 01730 (US). **MEDVEDEV, Irina** [US/US]; 68 Liberty Avenue, #2, Somerville, Massachusetts 02114 (US). **HOWARD, Steven, J.** [US/US]; 75 Heritage Avenue, Ashland, Massachusetts 01721 (US).

(74) Agent: **OGROD, Gregory D.**; Attn: International IP Administration, 5775 Morehouse Drive, San Diego, California 92121 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

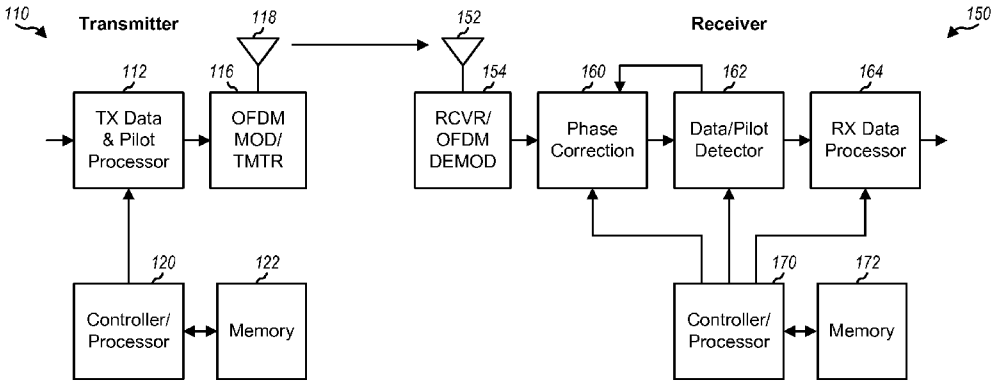
— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) **Title:** PHASE CORRECTION FOR OFDM AND MIMO TRANSMISSIONS



(57) **Abstract:** Techniques for performing phase correction for wireless communication are described. Received pilot symbols and received data symbols may be obtained from an orthogonal frequency division multiplexing (OFDM) and/or multiple-input multiple-output (MIMO) transmission. First phase information is obtained based upon the received pilot symbols. Second phase information is obtained based upon the received data symbols. The phase of the received data symbols is corrected based upon the first and second phase information (directly and/or indirectly). For example, the phase of the received data symbols may be corrected based upon the first phase information, detection may be performed on the phase corrected data symbols to obtain estimated data symbols, the second phase information may be obtained based upon the estimated data symbols, and the phase of the estimated data symbols may be corrected based upon the second phase information. The phase correction may also be performed in other manners.

WO 2007/137281 A2